

WHAT IS CLAIMED IS:

1. Load-bearing frame for a conveyor device, in particular a shelf-stacking device, with a support frame which can be secured on a lift of the conveyor device and, disposed on it, mutually parallel support mechanisms with displaceable telescopic support arms for receiving a storage unit such as a pallet, box, etc., and a conveyor system forming a conveying direction extending parallel with a displacement direction of the support mechanisms, characterised in that the conveyor system consists of conveyor mechanisms with two linear conveyors arranged in pairs, disposed symmetrically by reference to a mid-plane and extending between the support mechanisms perpendicular to the standing surface of the shelf-stacking device, forming a conveyor direction parallel with a displacement direction of the support mechanisms, and mean distances of the linear conveyors extending perpendicular to the mid-plane are greater than a mean distance of the support mechanisms.

2. Load-bearing frame as claimed in claim 1, characterised in that load-bearing surfaces of the linear conveyors of the conveyor mechanisms form two mutually parallel conveyor planes at a distance apart from one another extending perpendicular to the mid-plane.

3. Load-bearing frame as claimed in claim 2, characterised in that, by reference to a transport plane formed by the load-bearing surface of the support mechanisms, a conveyor plane is at a slight distance above the latter and the other conveyor plane extends at a distance underneath it.

4. Load-bearing frame as claimed in claim 2, characterised in that the distance between the conveyor planes corresponds to an internal height of a sub-structure of the storage unit.

5. Load-bearing frame as claimed in claim 2, characterised in that a mean distance between the linear conveyors forming the conveyor plane below the transport plane is greater than a mean distance of the support mechanisms but shorter than a mean distance of the linear conveyors forming the conveyor plane extending above the transport plane.

6. Load-bearing frame as claimed in claim 1, characterised in that a support mechanism in the form of roller track or an endless belt or chain circulated on a roller system is provided more or less in the middle between the telescopically adjustable load-bearing arms of the support mechanisms.

7. Load-bearing frame as claimed in claim 1 or 2, characterised in that the linear conveyors are provided in the form of traction conveyors extending along a length of the support frame.

8. Load-bearing frame as claimed in claim 1 or 2, characterised in that the linear conveyors are provided in the form of chain or belt conveyors or belt drives.

9. Load-bearing frame as claimed in claim 1 or 2, characterised in that the linear conveyors are drivingly linked, jointly or individually to one another and to a

drive, in particular an electric drive.

10. Load-bearing frame as claimed in claim 1, characterised in that the support mechanisms are drivingly linked to one another and to a drive, in particular an electric drive.

11. Load-bearing frame as claimed in claim 2, characterised in that rail-type guide elements are provided along the length of the support frame bounding the conveyor planes in a conveyor width extending in a direction perpendicular to the conveying direction.

12. Load-bearing frame as claimed in claim 11, characterised in that the guide elements are provided in the form of roller tracks or by guide rails.

13. Load-bearing frame as claimed in claim 11 or 12, characterised in that the guide elements are displaceably supported on the support frame.

14. Load-bearing frame as claimed in claim 1, characterised in that the telescopic support arms are designed with multiple telescoping systems.

15. Load-bearing frame as claimed in claim 1 or 14, characterised in that a displacement path of the telescopic support arms corresponds to at least twice the amount of a loading depth of the load-bearing frame on either side of a zero position on the support frame.

16. Load-bearing frame as claimed in claim 1, characterised in that a length of the linear conveyors approximately corresponds to the loading depth of the load-bearing frame.

17. Load-bearing frame as claimed in claim 1, characterised in that the linear conveyors form inclined receiving and despatching areas at opposite end regions adjoining transport elements.

18. Load-bearing frame as claimed in claim 1, characterised in that the drive for the linear conveyors is reversible.

19. Load-bearing frame as claimed in claim 1, characterised in that the drive for the support mechanisms is reversible.

20. Load-bearing frame as claimed in claim 1, characterised in that the drives for the support mechanisms and the conveyor mechanisms may optionally be individually or jointly activated and supplied with energy via a control system of the shelf-stacking device.

21. Load-bearing frame as claimed in claim 1, characterised in that support brackets projecting above the transport plane are provided on the support frame, on side walls extending parallel with the conveying direction.

22. Load-bearing frame as claimed in claim 21, characterised in that

positioning and/or retaining means are provided on the support brackets bounding the two sides of a conveyor width and are displaceable in a direction extending perpendicular to the conveying direction by means of a drive mechanism.

23. Load-bearing frame as claimed in claim 22, characterised in that the positioning and/or retaining means are mounted on the support brackets by means of guide systems.

24. Load-bearing frame as claimed in claim 23, characterised in that the guide system is a pivoting lever system.

25. Load-bearing frame as claimed in claim 23, characterised in that the positioning and/or retaining means are displaceable by means of a crank drive which is preferably motor-operated.

26. Load-bearing frame as claimed in claim 25, characterised in that the crank drive and the drive mechanism are supported on the support brackets by means of overload-safety means.

27. Load-bearing frame as claimed in claim 1, characterised in that the support frame is made in a lightweight structure from sheet-metal sections.

28. Load-bearing frame as claimed in claim 1, characterised in that the support frame is made from lightweight metal.